The Natural Environment and Atrocity Crimes


Kieran Mitton

Abstract
The relationship of the natural environment to war has long been the subject of study, but its connection to atrocity crimes in particular has received far less attention. In this chapter I explore the rich literature on the role natural resources play in shaping violence, examining it through two broad areas of focus that define the scholarship: scarcity and abundance. In doing so, I provide an overview of the key thematic debates linking resources to violence, from early Malthusian concerns over demographic pressures to more recent focus on climate change and urbanization.

Keywords
Natural resources, environment, abundance, scarcity, climate, nature, greed, urbanization

Dr Kieran Mitton is a Senior Lecturer in International Relations in the Department of War Studies at King’s College London, and author of ‘Rebels in a Rotten State: Approaches to Understanding Atrocity in the Sierra Leone Civil War (Hurst/Oxford University Press, 2015).
1. Introduction: Challenges

A well-known challenge in the study of violence is the tendency of scholars to conflate its causes with those of armed conflict. In the twenty-first century, the burgeoning literature on civil wars, particularly that focused on the micro-level, has explicitly pushed back against this trend (Kalyvas, 2006).¹ This scholarship has sought to treat violence as a phenomenon in its own right, allowing for a more focused approach to the study of atrocity crimes which accounts for variation between drivers of conflict and violence. Nevertheless, in the literature examining the relationship of natural resources with war, atrocities remain subsumed under theories of conflict causation (and recurrence), with the causal mechanisms behind extreme violence typically assumed rather than theoretically or empirically substantiated. This chapter highlights various ways in which this problem has manifested across work on resource scarcity and abundance, but also notes some welcome departures from this tendency.

Methodological and disciplinary silos have also tended to obstruct collaboration and exchange between different fields. The studies of violence, civil war, mass atrocities and genocide hold numerous overlaps and complimentary insights, yet they have tended to work in isolation from one another. For instance, economists have been at the forefront of analysis

¹ Though often closely related, violence and conflict are not synonymous: one can exist without the other (Hannah Arendt, 1970, p. 19; Brubaker and Laitin 1998, p. 425; Horowitz; 2001, p. 475). Within war, violence is typically highly varied over time and space. Violence and armed conflict often have distinct causes: for instance, Kalyvas notes that micro-level or ‘local’ violence in civil wars may be about score-settling between individuals, unconnected to the broader political causes of conflict (Kalyvas, 2006, p. 20).
of civil wars in the early 21st century but have rarely engaged with the study of genocide, leaving what Anderton and Brauer refer to as both an “economics gap” in genocide studies and a “genocide gap” in economics (Anderton & Brauer, 2016, p. 5). Methodological differences have also hindered cross-pollination of fields. Macro-level statistical analyses of large datasets, typical of many economist’s treatment of “resource wars,” are valuable for their systematic comparative approach but are invariably criticized for lacking context sensitivity and explanatory power for causal claims. The logical fallacy of equating correlation with causation pervades criticism of cross-national studies linking measures of resource scarcity or abundance to violence, including the most recent analyses of climate change effects. Whilst positivist peace and conflict scholars in political science and economics have been willing to make causal claims based on such data (see Collier and Hoeffler, 2005; Homer-Dixon, 1999), human geographers and political ecologists have been more reluctant, wary of perceived “environmental determinism” (Le Billon & Duffy, 2018: p. 239; see also, Benjaminsen et al. 2012; Hartmann, 2001; Peluso and Watts, 2001).

Conversely, qualitative approaches, particularly micro-level ethnographies, though recognized for their rich contextual detail are criticized for a perceived reliance on anecdotal findings that offer few lessons beyond specific cases, and for holding bias towards socio-political factors to the exclusion of the material world (Le Billon & Duffy, 2018). These well-worn and somewhat reductive critiques are found throughout the scholarship on the natural environment and mass violence. Promisingly, more recent research suggests the complementary potential of mixed methods approaches to atrocity crimes, which is increasingly being explored through multi-disciplinary and multi-scalar work that transcends conventional dividing-lines of enquiry (see Le Billon & Duffy, 2018; Anderton & Brauer, 2016; Ide, 2017).
This chapter discusses two broad areas of enquiry into atrocity crimes as related to the natural environment: firstly, those focused on the scarcity of natural resources, and secondly, those focused on their abundance. It begins by exploring the scholarship on resource scarcity, discussing “soft” and “hard” Malthusian arguments concerning civil war, mass killing and genocide, and outlining the key critiques of this literature. The following section addresses the vast scholarship on resource abundance, exploring so-called “greed” arguments concerning civil war violence, the political economy and rebel governance literature on atrocity, and utilitarian typologies of genocide. After summarizing key critiques of these arguments, the chapter concludes with a look to the future, outlining where existing gaps may be addressed and future research usefully directed in light of unprecedented urbanization and climate change.

2. Resource Scarcity and Atrocity Crimes

The relationship of resource scarcity to conflict has received sustained attention over centuries of analysis. Among the most influential and controversial contributions are the ideas of 18th century cleric and economist Thomas Malthus, who anticipated catastrophic consequences of rapid population growth in the midst of the British agricultural revolution. According to Malthus, populations would eventually outgrow the resources needed to support them; without deliberate population control measures, nature’s balance would be restored by other “able ministers of depopulation” – poverty, famine, disease, and war (Malthus, 1798, p. 61). The thesis provoked heated debate. Karl Marx and Friedrich Engels, among the most vehement critics of the time, argued that poverty and famine should not be understood as natural outcomes of (and solutions to) demographic and environmental pressures, but should rather be understood as fundamentally political problems related to the inequitable
distribution of resources (Marx, 1867; Charbit, 2009; Wiltgen, 1998). In many respects, this
divergence of views, of the material reality versus political construction of scarcity and its
consequences, remains a defining characteristic of enduring environmental security debates.

In the years following the publication of Malthus’s thesis, the world’s population continued
to grow at unprecedented rates, but food scarcity and cataclysm never materialized on the
scale Malthus had foreseen. Technological innovations in food production and storage,
among numerous other advances brought by industrialization, provided solutions to many of
the challenges of rapid population growth. Critics argued that Malthus, in his pessimism, had
failed to account for the propensity of human scientific and social progress to ameliorate the
challenges of growth; indeed, progress and cooperation could be seen as the result of these
challenges. However, over the decades since, various authors have claimed that it was only
the timing, rather than the theory, that was inaccurate. This often sensationalist work holds
that innovation cannot keep pace with population growth indefinitely, and that at some future
point, without checks on growth, famine, disease, poverty and war will be induced by
resource-scarcity (see for example Ehrlich, 1968; and Paddock & Paddock, 1967). More
recent analyses of climate change, population growth and rapid urbanization in the 21st
century raise the alarm over ecological and demographic “entrapment”, a claimed situation in
which local (and ultimately global) populations exceed the carrying capacity of
their ecosystem, potentially leading to “civilizational collapse” (Butler, 2018, p. 2266;
Levene, 2010; King & Yang; 2006).

Since its inception the Malthusian thesis has framed discussions of the relationship between
resource scarcity and violent conflict. Various scholars have predicted cataclysmic
consequences of urban growth and environmental degradation, and in some instances, have
argued that outbreaks of civil war and genocide are the realization of the Malthusian catastrophe (see for example Diamond, 2005; Kaplan, 1994; Renner, 1996). A “hard” and a “soft” form of this argument can be usefully identified in scholarship: in the former, the causal relationship is seen as direct and environmentally determined, whilst in the latter, the relationship is indirect as scarcity interacts with other social, economic and political determinants.

2.1. New Barbarism

One of the most prominent incarnations of hard neo-Malthusianism came in the 1990s amidst a particularly influential wave of analysis that re-conceptualized post-Cold War conflict and genocide as ‘new wars’ (Kaldor, 1999; Shaw, 2000, 2007). Violence in sub-Saharan Africa and the Balkans was given particular focus in much of this writing, which argued that war defined by the global contest of superpowers had been succeeded by that born of non-ideological, identity-based or essentially criminal motives (Van Creveld, 1991; Kaplan, 1993). State collapse was said to have unleashed criminal anarchy, in which sustaining war to reap material rewards, rather than winning it, was understood as the main aim of many protagonists. An offshoot of new wars went further by explicitly linking state-collapse, which supposedly set loose this anarchy, to scarcity and overpopulation. Labelled “New Barbarism” and “Malthus with guns” by one critic (Richards, 1996, p. xiii), its defining work was Robert Kaplan’s 1994 article: “The Coming Anarchy: How scarcity, crime, overpopulation, tribalism, and disease are rapidly destroying the social fabric of our planet” (Kaplan, 1994). Referencing Malthus, Kaplan argued that the environment was a “hostile

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2 Mary Kaldor explicitly distances her work on new wars from New Barbarism and those approaches describing conflict as anarchy (see Kaldor, 2013)
power” and that nature was “back with a vengeance” (Kaplan, 1994, p. 54). Wars in the Balkans, Liberia, Sierra Leone, Sri Lanka and beyond, were described as stemming from urban overpopulation and violent competition for scarce resources in the absence of state order. Violence was now less about ideological or political aims than about criminal opportunism, religious and ethnic enmities, or even – for some – “about nothing at all” (Enzensberger, 1993, p. 60). As such, atrocities were central in New Barbarism accounts of conflict, particularly acts of violence targeting civilians such as looting and rape that, superficially at least, seemed counter-productive to the conventional goals of a political insurgency. These wars were supposedly atavistic, described as Mad Max-like “Hobbesian playgrounds” (Hedges, 2003, p. 163; Enzensberger, 1993; Kaplan, 1993). Characterized by looting, the use of child soldiers, and the frequent targeting of civilians for rape, mutilation and murder, the “intense savagery” of these wars was taken as evidence that combatants had descended to primal depths of barbarism (Kaplan, 1994, p. 71). Seen through this lens, atrocities needed no further explanation than that scarcity and overpopulation had unleashed the violence lurking in human nature.

The New Barbarism accounts of atrocity in the 1990s were roundly criticized for reproducing Western essentialist and racist tropes about Africa and the developing world (Baaz & Stern, 2008, pp. 57-59; Dalby, 1996; Duffield, 2001, pp. 114-115; Gbere, 2005, pp. 4-5; Keen, 2005, p. 57; Mkandawire 2002, pp. 183-184; Tuastad, 2003). In specific regard to their Malthusian claims, critiques highlighted the contradictions that arose in many of the often-cited cases of supposed overpopulation and resource-scarcity, which relied heavily on anecdotal evidence. Sierra Leone, for example, had a small population and an abundance of natural resources. Degradation of its rainforests pointed not towards scarcity but to the monopolization of ample resources by political elites (Richards, 1996). The substantial
literature on resource abundance (discussed further below) has thus convincingly shown this scarcity-argument to be ill-suited to many cases of civil war cited by New Barbarism.

In their emphasis on anarchy, criminality and senseless violence, New Barbarism accounts have also been heavily criticized for depoliticizing violence and natural resources, stripping them of their historical and socio-economic context. An influential rebuttal to Robert Kaplan’s “The Coming Anarchy” came in “Fighting for the Rainforest” by anthropologist Paul Richards (1996), which explicitly connected the natural environment and conflict over resources not to scarcity per se, but to long-standing political grievances over the (mis)management and monopolization of those resources by patrimonial elites. Drawing on an ethnography of Sierra Leone’s civil war, Richards’s work showed that the relationship of rebel atrocities to natural resources could not be adequately understood without consideration of this historical, social, political and economic context.

A related criticism has also been made of New Barbarism’s deterministic view of base human nature and its lack of specificity on the precise casual mechanisms linking environmental pressures to extreme violence. Often written in a journalistic style, the New Barbarism accounts implied a Hobbesian view of conflict whereby wanton and senseless violence occurs in the absence of restraints, both physical (state control) and cultural – atrocities occur, in Kaplan’s words, “in places where the Western Enlightenment has not penetrated” (Kaplan, 1994, p. 72). Resource scarcity and demographic pressures were seen as having broken the chains of civilization that were holding this violent human nature in check. However, a substantial civil wars literature on the rationality of violence began to emerge in the late 1990s, spanning disciplines and regional foci, with a particularly significant contribution from economists and political scientists. This scholarship challenged the conceptualization of
conflict as a collapse of order by identifying the strategic and instrumental logic shaping atrocity crimes, which invariably served the rational political and economic agendas of war actors (Berdal & Malone, 2000; Collier & Hoeffler, 1999; Keen, 1998; Kalyvas, 1999). For some, the appearance of anarchy and disorder could even be understood as part of an armed group’s strategy (Keen, 1997). The inadequacy of understanding violence as a by-product of disorder or “a crime of passion” has also been emphasized in studies of genocide that articulate the “deliberate, purposeful, and focused” rationality of its perpetrators (Anderton & Brauer, 2016, p. 3; Shaw, 2007; Strauss, 2012, p. 552). Accordingly, the New Barbarism view of scarcity as a cause of atrocities through its unleashing of uncontrolled innate violence remains strongly contested in the literature on civil wars and genocide.

2.2. The Environmental Security Literature

A second, distinct incarnation of neo-Malthusianism emerged alongside New Barbarism and was invoked in much of Kaplan’s writing. Emanating from work undertaken in the field of political science, and increasingly incorporating contributions from economics, public health and the environmental sciences, it can be understood as constituting an “environmental security” literature that ranges from “soft” to “hard” Malthusianism. This work has given greater focus to local rather than global catastrophic violence as a result of scarcity, and has taken into account social, political and economic risk factors behind conflict causation. It continues to shape discussion of urbanization, climate change and scarcity of renewable resources such as water, forests and agricultural land (Le Billon & Duffy, 2018). In its hard form, the causal relationship between overpopulation, scarcity, and violence is treated as direct and materially determined (Renner, 1996; Diamond, 2005). In its softer form, this analysis treats the effects of scarcity as conditional upon its form and the context in which it
occurs. Depending on levels of development, the strength of institutions and degree of ethnic or religious fractionalization, it argues that scarcity may multiply or exacerbate pre-existing risks of violence (Verpoorten, 2012).

The work of Thomas Homer-Dixon is prominent in this area and gives particular emphasis to the capacity of environmental scarcity to contribute to violence in the form of group identity conflicts and insurgencies (Homer-Dixon, 1999, 2008). Interstate wars spurred over contested (or coveted) resources such as water – “simple scarcity conflicts” in Homer-Dixon’s analysis – are seen as rare (Homer-Dixon, 1999, pp. 137-141). Echoing Malthus, Homer-Dixon argues that scarcity-conflict will increase in coming decades, especially in the developing world. However, Homer-Dixon emphasizes that the causal relationship is often “obscure and indirect” and that scarcity is a catalyst for violence through its interaction with and exacerbation of existing political, economic, and social stresses (Homer-Dixon, 1999, p. 177). The likelihood of insurgency, according to this theory, is highest when environmental scarcity simultaneously boosts grievances and the opportunity for collective violence, for example by exacerbating economic hardship and dislocation, leading to increased intergroup segmentation, and by weakening institutions that might effectively contain violence (Homer-Dixon, 1999, pp. 142-147). Large-scale migration to urban areas resulting from resource scarcity is understood as a key stressor likely to exacerbate identity-conflicts and result in inter-group violence: “As different ethnic and cultural groups are propelled together under stressful circumstances,” Homer-Dixon argues, “we often see intergroup hostility with a strong identity dynamic” (Homer-Dixon, 1999, p. 141).

It is in discussion of identity-based violence that the environmental security literature comes closest to examining the relationship to atrocity crimes specifically, rather than to conflict
more generally. The 1994 Rwandan genocide is an often cited case used to explore this argument. In the most Malthusian formulations, the genocide has been described as having been likely or even inevitable due to arable land degradation, rapid population growth and increased population density in the years preceding the atrocity crimes (Renner, 1996; Diamond, 2005; André & Platteau, 1998; Friedman, 2016). These environmental and demographic pressures are argued to have combined with embedded socio-economic and political inequalities, particularly in regard to the distribution of land, to create the incentives for violence against the Tutsi (Diamond, 2005; McNab & Mohamed, 2006). A similar argument pervades analysis of urban and non-war contexts in the developing world, in which rapid urbanization and scarcity are held to exacerbate cleavages between rich and poor, or between ethnic and religious groups, and by so doing give rise to criminal and communal violence (Homer-Dixon, 1999, pp. 160-166). A burgeoning literature warns of the growth of such violence in so-called “fragile cities,” because they lack the capacity or political will to manage these pressures (Beall, 2007; Cockayne et al. 2017; Moser & McIlwaine, 2014; Muggah, 2015; Patel & Burkle, 2012). Likewise, various climate-security studies have conceptualized climate change as a “threat multiplier” in “fragile” regions (Nagarajan et al. 2018, p. 5). By inducing drought, famine, flooding, agricultural insecurity and migration, it is said to exacerbate political and social fault lines, leading to communal violence and civil war (Bowles et al., 2015; Burke et al., 2015; Caruso et al., 2016; Fjelde & von Uexkull, 2012; Hendrix & Salehyan, 2012; Scheffran et al., 2012). Focal points for much of this scholarship are wars and pastoral-herder conflicts in the Sahel region, the Lake Chad Basin and the Horn of Africa (Gilmore et al., 2018, p. 315). The outbreak of the Syrian civil war in 2011 has also received particular attention. Various scholars identify water scarcity and

3 Importantly Homer-Dixon, among many others, rejects a Malthusian reading of the Rwandan case (see Percival & Homer-Dixon, 1996). These critiques are discussed in due course.
climatic conditions as having devastated agricultural livelihoods, spurring rural-to-urban migration which in turn exacerbated urban grievances and inequalities (through increasing strain on local resources), leading to anti-regime protest and eventually violence (Gleick, 2014; Kelley et al., 2017; Werrell et al., 2015).

Although far more sophisticated than New Barbarism in its analysis and methods, the environmental security literature has likewise been criticized for its inconsistent or inconclusive evidence base, with some critiques claiming a selection bias towards case studies and data that fit the theory (Gleditsch, 1998; Friedman, 2016). Critics observe that a hard Malthusian argument cannot explain why many countries with high population density pressure and high poverty, such as Bangladesh, Tanzania and Vietnam, do not succumb to intense violence (Friedman, 2016, Menab & Mohamed, 2006; Uvin, 1998; Yanagizawa, 2006; Gleditsch, 1998; Gleditsch & Urdal, 2002; Hauge & Ellingsen, 1998; Urdal, 2005). In countries that do experience intense violence, contradictory evidence abounds. For example, Verwimp’s study finds that during the Rwandan genocide, areas of high population density and population pressure were not associated with higher levels of violence (Verwimp 2005; Friedman, 2016, p. 342; but see Verpoorten, 2012), and there is equally limited evidence to link deprivation at the community or household level to the perpetration of violence (McDoom, 2014; Verwimp, 2005). McDoom notes that neo-Malthusian arguments fail to account for the timing of the Rwandan genocide; population density was high long before 1994, and demographic pressures have been even greater since (McDoom, 2011, pp. 7-8).4

4 Interestingly, and highlighting the danger of assuming rather than investigating causal relationships, McDoom’s research does suggest that population density in Rwanda may have contributed to mobilisation and spread of violence, but as a consequence of the density of social networks rather than Malthusian scarcity dynamics (McDoom, 2013).
Percival and Homer-Dixon (1996) explicitly reject the Malthusian argument in the case of Rwanda, noting the central role played by residents of areas with lower population density and political elites who were largely unaffected by scarce resources. Large cross-country analyses that draw on national-level measures of population density, population growth, deforestation, soil degradation, and water scarcity (e.g., Collier & Hoeffler, 1998; Urdal, 2005; Theisen, 2008), have also found only limited evidence for a causal relationship with violence, underlining that the central claims of both hard and soft neo-Malthusian arguments remain empirically contested (Verpoorten, 2012, p. 3). This is particularly evident in the growing sub-body of “climate-security” scholarship focused upon effects of climate change.

In the case of Darfur, which received significant attention for being the “first climate war” (e.g., Mazo, 2010, pp. 73-86; Welzer, 2012, pp. 61-65), critics have argued that the region was not marked by drought preceding or during violence and that political and economic factors were more significant (Kevane & Gray, 2008; Selby & Hoffman, 2014; Selby et al. 2017, p. 233). Similarly in the case of Syria, studies linking violence to water scarcity have been criticized as “seriously flawed” for conflating correlation with causation, lacking empirical evidence to support a causal relationship, and for inadequately accounting for political factors that predated drought (Selby et al., 2017, p. 233; De Châtel, 2014; Ide, 2018).

Despite the soft neo-Malthusian approach taken by those such as Homer-Dixon, which recognizes the political and social structures shaping both violence and scarcity, the environmental security literature has been criticized for an inclination towards environmental and demographic determinism that obscures these factors (Barnett, 2000, p. 281; Le Billon & Duffy, 2018; Peluso and Watts, 2001; Verhoeven, 2011). Particularly in regard to studies of climate change, a number of critics have related this to positivist literature’s perceived overreliance on large-N studies and insensitivity to the local context and multidimensionality.
of specific conflicts (Selby, 2014; Solow, 2013). Political ecologists have also argued that treatment of the natural environment in “national security” terms obscures the complex relationship between political conditions and the onset of conflict and scarcity itself (Le Billon, 2007, p. 168; Dalby, 2002; Verhoeven, 2011). Certainly, in its hardest formulation, the deterministic neo-Malthusian argument can be criticized for missing important root causes of violence, such as the political configuration in a society, in which the real or perceived relative deprivation of groups, rather than absolute scarcity itself, may provide motives and opportunities for mass mobilization for violence. The context of social and political polarization proves important in most accounts of the Rwandan genocide, whether from a political, social, cultural or economic perspective. Likewise, the environmental security literature has been criticized for missing – and even facilitating – the political causes of environmental crises, and the extent to which these crises may be exploited or entirely fabricated for political and economic gain. For example, studies of famine in Sudan have found that the environmental crisis was perpetuated and exploited by national and local elites for political, economic and military advantage (Keen, 1994; De Waal, 2017; Verhoeven, 2011, p. 685). Such research cautions against uncritically accepting explanations for violence framed in environmental terms. The manner in which the discourse and fear of resource scarcity may be weaponized against certain groups within a society may be significant in linking environmental insecurity and atrocity crimes: “The problem is not violence or starvation caused by scarcity, but how narratives of scarcity are deployed to rationalize aggressive policies” (De Waal, 2016).

The above criticisms and ensuing (often fraught) debate have been complicated by the diversity of soft and hard Malthusian approaches within the environmental security literature, and the frequent conflation of the two. This point has been central to the responses offered by
Homer-Dixon and others who regard critics as misleadingly projecting the flaws of hard Malthusian analyses on to their more moderate approach (see Homer-Dixon, Peluso and Watts, 2003; and Uvin, 1998, p. 183).\(^5\) Their research does indeed emphasize the role that resource scarcity and demographic pressures play in providing opportunity or momentum to pre-existing social and political fractures, such as pronounced horizontal and vertical inequalities (Friedman, 2016). Criticisms concerning overreliance on large cross-national datasets, spurious correlations and causal assumptions remain pertinent, particularly regarding more recent climate change research (Selby, 2014, p. 829; Ide, 2017). However, they should not obscure the qualitative case study work already undertaken in this field,\(^6\) and may become less relevant as efforts to explore the potential of mix-methods and collaborative research gain momentum across disciplines (De Juan, 2015; Le Billon & Duffy, 2018; Ide, 2017; Solow, 2013).

Finally, the environmental security literature has followed the tendency of the wider scholarship on war and genocide to make general claims concerning conflict with limited discussion of the precise causal mechanisms behind violence. Morris Miller (2000), among others (see for example Barnett, 2000, p. 283), has highlighted this challenge in the work of scholars such as Homer-Dixon, Michael Renner and Peter Gleick. Though he recognizes these authors’ allusions to “social discontent and polarization” and “political frictions and tensions”, he notes: “The pertinent question not answered by any of them is: how does tension and the resultant stress become transmuted into armed violence in the form of large-

\(^5\) However, some critics point to a greater degree of Malthusian “essentialism” in Homer-Dixon’s early work (see Verhoeven, 2011, p. 682).

\(^6\) In fact, Homer-Dixon’s work has been criticized by some for overreliance on case studies (Gleditsch & Urdal, 2002, p. 296; Le Billon & Duffy, 2018, p. 250).
scale conflict? This transmutation cannot be assumed” (Miller, 2000, pp. 86-87). This explanatory gap may persist because at the heart of soft Malthusian arguments is an implicit and often explicit understanding that other factors, such as structural political inequalities, and not scarcity itself, play the crucial role in fomenting and shaping violence. As such, it is left to theories such as those concerning relative deprivation (Gurr, 1970, 1993; Tilly, 1998, 2003) and horizontal inequalities (Stewart, 2008) to perform the explanatory work on violence, particularly when seeking to understand when and in what form atrocity crimes might occur.

2.3. Beyond Malthus

It is important to note that though much analysis on resource scarcity is said to be haunted by the “ghost of Malthus”, research has also followed distinct pathways that examine scarcity in its potential to constrain rather than cause violence. A growing body of work examines the relationship between mass violence, civilian targeting in war and genocide, and logistical capacity (Anderton et al. 2016; Rogall, 2014). For example, Zhukov (2016) explores the logistical constraints on the “quantity and quality” of violence against civilians by drawing on disaggregated data from fifty-eight low-intensity conflicts as well as archival data on the Soviet Union and Nazi Germany. He finds that “where external resources are difficult or impossible to obtain, mass violence will be difficult or impossible to produce”, but where resources are abundant, “violence can be more intense and often more indiscriminate” (Zhukov, 2016, pp. 403, 419).

Similar claims have been made in studies of civil war regarding the constraining effects of resources on armed groups’ discipline, motives and ideological coherence. One position
holds that non-state actors with limited resources are likely to be more reliant on civilian support, less ideologically corrupted by profit-seeking recruits, and so less violent towards civilians (Beardsley & McQuinn, 2009; Fortna et al., 2018; Salehyan et al., 2014; Weinstein, 2007; Wood, 2014). Reversing this position, scholars have also argued that scarcity may increase violence by rendering groups materially reliant upon civilians; unable to offer sufficient economic incentives to secure popular support, they resort to violent coercion where civilians do not give it voluntarily (see Wood, 2010, p. 982). Another argument holds that scarcity erodes military discipline and encourages irregular warfare which “easily degenerates into brutalizing terror” (Kalyvas, 2007, p. 1149; Ellis, 1999; 2003). The extent to which the likelihood of wartime atrocity crimes is related to an armed group’s resource-endowments is a debate that has received far greater attention in the scholarship on resource abundance, and it is this literature that we now turn.

3. Resource Abundance and Atrocity Crimes

Scarcity-centered theories on the causes of violence have been strongly challenged by a large body of work that instead focusses on the relationship between resource abundance and conflict. This scholarship not only explores the role that resources may play in causing, enabling or sustaining wars (e.g. Collier, 2000; Collier & Hoeffler, 2005; Humphreys, 2005; Ross, 2004), but also considers how they may shape the intensity, scale and form of violence (e.g. Keen, 1998, 2000; Marriage, 2016; Malaquias, 2001; Weinstein, 2007). The contention that competition for abundant resources may lead to especially brutal or cruel violence is an old one, deeply embedded in popular understandings of atrocity crimes throughout history. Accounts of colonial expansion and the “scramble for Africa” are characterized by violent
atrocities against civilian populations, often in the pursuit of natural resources such as rubber and gold (Hoithschild, 1998; Moses, 2008; Thomas, 2012; Schaller, 2010). Much of the New Barbarism literature drew direct comparisons between violence of the 1990s and medieval European forms of criminal banditry, rape and pillage; comparisons which have echoed across the literature on the political economy of war in discussion of “blood diamonds” and warlordism (Alao, 1999; Le Billon, 2006; Reno 1998). However, the latter scholarship can be sharply distinguished from New Barbarism’s emphasis on anarchy and “senseless” violence through its location at the opposite end of the order spectrum. Strongly associated with political science and economics analysis, this approach has understood conflict not as a breakdown of order but rather as the emergence of alternative orders, with even the most extreme and seemingly counter-productive forms of violence guided by the rational strategic calculations of its perpetrators.

At least three main explanations of atrocity crimes can be discerned in the resource-abundance literature. First, violence is understood as a terror tactic, aimed at achieving strategic or opportunistic goals linked to material profit (Azam & Hoeffler, 2002; Gberie, 2005; Fortna et al., 2018; Keen, 1998, 2000, 2005). This is an argument about the instrumentality of violence. Second, violence against civilians is understood as an unintended consequence of the irrelevance of popular support for group survival. In situations, where armed groups have access to abundant resources, they are self-sufficient and may not need or seek civilian support. This means that they may not expend organizational effort to instill strong norms and deterrents against civilian abuses in their ranks. In this climate of impunity, it is argued, abuses become more likely. Furthermore, these abuses are likely to result in weak or hostile relationships between rebels and civilians, leading groups to rely on further violence to control the population (Beardsley & McQuinn, 2009; Hoeffler, 2016; Salehyan et
al., 2014; Weinstein, 2007). This is an argument about violence “as an unintended organizational by-product rather than the outcome of the intentional pursuit of specific goals” (Kalvyas, 2007, p. 1146). Third, and an extension of the latter, violence is understood as resulting from the opportunistic and criminal character of recruits, motivated to fight for loot and profit rather than ideological or “activist” aims (Weinstein, 2007). A number of studies implicitly or explicitly argue that groups motivated by economic greed attract and promote “bad” characters, “psychopaths” (Henderson 1985, p. 149) and “sociopaths” (Reno, 1998, p. 54), with a propensity towards violent abuses (Gberie, 2005; Kalyvas, 2006, p. 57; Mueller, 2000, pp. 42-43). This is essentially an understanding of violence as resulting from the psychology of individuals and the behavioral norms of a supposed criminal or “lumpen” social strata (Abdullah, 1998; Ellis, 1999, p. 134). These approaches can be identified in various forms in three broad areas of work, discussed in turn below. First, in work that centers around a “greed versus grievance” debate over the causes of so-called “resource wars” (e.g. Collier & Hoeffler, 1999; Cramer, 2002; Duffield, 2001; Keen, 2000; Reno, 2000); second, in later micro-level studies of civil wars specifically focused on resources, rebel governance and atrocity crimes (e.g. Beardsley & McQuinn, 2009; Weinstein, 2007); and third, in large-N studies of genocide and mass killings in the fields of economics and political science (e.g. Esteban et al., 2015).

3.1. Greed and the Political Economy of Resource Wars

One of the most influential contributions on the relationship of resource abundance to atrocity crimes emerged in the late 1990s as a response to the dominance of explanations centered around group grievances and intergroup hatreds (Collier, 2000, p. 91). Drawing on
econometric analysis of large cross-country datasets to explore the causes of civil war, economists Paul Collier and Anke Hoeffler found limited relationship between the onset of war with poverty, ethnic cleavages or political grievances, but a strong relationship with “lootable” natural resources and various proxies for “greed” (Collier, 2000; Collier & Hoeffler, 1999, 2005). Accordingly, Collier concluded that “The true cause of much civil war is not the loud discourse of grievance, but the silent force of greed” (Collier, 2000, p. 8). In this understanding, rebel-groups' claims of ideological motivation and political grievances concerning injustices are used to mask and service their “true” interest, which is to capture and profit from resources. The more abundant the resources, the greater the risk may be. Countries with a high dependency upon primary commodity exports, such as oil and diamonds, are held to be at particular risk of conflict; the potential lucrative gains for rebel groups that capture these resources offset the potential costs of violence, whilst the weakness of the state—a consequence of reliance on natural resource exports— is argued to make armed rebellion more feasible. In Collier’s analysis, other factors, such as high proportions of young men in a population and low-levels of education, also increase risks of war.

In reframing conflicts as resource wars driven by economic agendas rather than by ideological aims or intergroup hatreds, such analyses provided an explanation for atrocity crimes that centered on the instrumentality and order of violence, rather than its supposed anarchic senselessness (as emphasized by New Barbarism). Violence against civilians in conflicts in Angola, Cambodia, Colombia, and Liberia was not counter-productive or irrational, it was argued, since perpetrators were not truly pursuing political aims or seeking

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7 Collier’s later work focuses on what makes rebellions feasible, rather than what causes them, a significant moderation of his early claims concerning “greed” motives. However, this distinction does not significantly affect his interpretation of the causes of atrocity crimes.
to win the “hearts and minds” of the population – their motives were to capture and profit from diamonds, drugs, and timber (Collier & Hoeffler, 1999, p. 1; 2000, p. 2). In this respect, atrocities proved useful to armed groups as a terror tactic, for example by allowing them to depopulate resource-rich areas or control the civilian population as source of labor and recruitment (Azam & Hoeffler, 2002).

Collier’s work met with strong rebuttals, discussed in due course, in what became known as the “greed versus grievance” debate (see for example, Ballentine & Sherman, 2003; Berdal, 2005). A distinct literature focused on the political economy of war, which included vocal critics of the “greed thesis” and drew on qualitative case study research, nevertheless agreed on the significance of natural resources in shaping brutal yet inherently rational violence in civil wars (Duffield, 2001; Keen, 1997, 1998, 2000; Le Billon, 2001; Reno, 2000). Keen, for example, stressed that the seemingly chaotic and counter-productive violence depicted by New Barbarism was often highly instrumental, rationally employed, and served economic functions that were a driving force of conflict (Keen, 1997, 1998, 2000). A key starting-point of much of this analysis was that war itself may not be a disaster for all concerned: economically-motivated actors may seek to sustain and benefit from conflict, and likewise, violence that may seem irrational or counter-productive – such as the targeting of civilians – may make more sense if winning the war is not the end-goal of belligerents (Keen, 1997, pp. 70-71). Through such political economy accounts, the atrocities of conflicts in Angola (Frynas & Wood: 2001; Le Billon, 2001; Orogun, 2004), Bosnia (Andreas, 2004; Mueller, 2000), Colombia (Gray, 2008: 67; Guáqueta, 2003; Richani, 1997), Liberia (Ellis, 1999; Reno, 2000: 54), Sierra Leone (Gbere, 2005; Keen, 1997; 2005) and beyond, in which potential civilian supporters were heavily targeted by rebels, may become explicable due to
looting and trade in illicit resources such as “blood diamonds” and narcotics.

The influence of rationalist “greed” and political economy perspectives remains strong in attempts to account for violence in civil wars. The seemingly perpetual conflict of the Eastern Democratic Republic of Congo (DRC) has taken center-stage in much of this analysis, particularly in studies conceptualizing sexual violence as a “weapon of war” (Buss, 2018; Brown, 2012; Meger, 2016). Competition for mineral resources such as coltan, diamonds and gold, are portrayed as the “engines of chaos” (Laudati, 2013, p. 33), with atrocity crimes performing a crucial function in the “war machine” (Marriage, 2016, p. 357). Jackson (2002, p. 517) sums up the logic of many of these arguments: “Profits increasingly motivate the violence, and violence increasingly makes profits possible for all belligerents.” As in conflict in Afghanistan (Goodhand, 2005, pp. 199, 203; Giustozzi, 2007), Syria (Hallaj, 2015; Steenkamp, 2017), Iraq (Green & Ward, 2009) and elsewhere, violence in the DRC is understood to perform various meso- and micro-level functions as a tactic of terror, allowing members of armed groups to control populations and maintain the profitable enterprise of war. Forced conscription, particularly of youth, enables armed groups to sustain their numbers in the absence of willing volunteers (Marriage, 2016, p. 361); forcing conscripts into acts of extreme violence helps groups to deter desertion and improve group cohesion (Cohen, 2017; Mitton, 2015). At the individual micro-level, a consequence of this climate of criminal violence, according to much analysis, is that young combatants are exposed to “heightened levels of aggression,” contributing to an increase in violence that may not be aligned to strategic goals (Marriage, 2016, p. 361).

The literature on resource abundance has provided an expansive range of analysis that has convincingly highlighted the role played by the rational economic strategies of conflict actors
in shaping violence. As a corrective to New Barbarism and its emphasis on anarchy, and as a challenge to Malthusian arguments, it has proven broadly effective. However, echoing critiques of the scarcity literature, Collier’s “greed” thesis in particular has been challenged on its methods, empirical basis, limited engagement with political context, and limited specificity regarding the causal mechanisms behind violence. The use of large-N studies and cross-case comparative statistical analysis has been heavily criticized for producing contradictory results: similar studies find that abundant natural resources are not significantly related to war onset (see for example, Fearon & Laitin, 2003; Elbadawi & Sambanis, 2002; Ritterink, 2010, p. 8). Various scholars criticize Collier and colleagues for drawing on selective or incomplete data, for utilizing inappropriate proxies and measurements of “greed” (such as education-levels), and for conflating correlation with causation (Cuvelier et al., 2013, p. 8; Cramer, 2002; Keen, 2012; Nathan, 2005; Ross, 2006). Nathan notes that Collier’s findings are inferred from correlations that are not based on any actual evidence of rebel behaviour (Nathan, 2005, p. 1; see also Keen, 2012, p. 761). Micro-level claims are drawn from macro-level measures of primary commodity exports, youth populations and education-levels. In other words, the greed thesis infers individual rebel motivations from national statistics (Ballentine and Sherman, 2003; Beardsley & McQuinn, 2009, p. 626; Sambanis, 2004, p. 259). The suitability of such an approach is further challenged by Collier’s focus on rebel groups to the exclusion of state forces (Keen, 2012, p. 768).

The use of large macro-level datasets in “greed” arguments may also account for their much-criticized depoliticizing essentialism, in which “criminal” readings of violence may obscure or downplay the local political, social and historical contexts shaping violence. The portrayal of rebel actors as essentially criminally motivated marks a major point of difference between Collier’s analysis and that of much of the political economy literature. This stream of
scholarship, by contrast, has tended to view economic incentives and agendas as existing alongside, and interacting with, other important political causes and dynamics of violence (Cramer, 2002; Keen, 2012). Keen, for example, advocates for an understanding of the economic functions atrocities perform in war, but finds that Collier’s exclusion of grievances (and the justifications provided by perpetrators) ignores contrary findings from the substantial research on horizontal inequalities (see Stewart, 2008; Keen, 2012, p. 760). For Zartman, Collier’s dismissal of grievances is quite simply “empirically wrong and ideologically perverse” (Zartman, 2005, p. 259). Further, it is argued, it effectively delegitimizes the actions of non-state actors (Keen, 2012, pp. 767-768; Duffield, 2001).

Keen references the DRC in arguing that research on resource abundance must address “the intensity of some of the grievances within military organizations and how these have fed into atrocities” and more generally answer the question: “where greed has gained a hold, what grievances have made people so violently greedy?” (Keen, 2012, p. 777). In this respect, Keen’s criticisms echo those of Le Billon who observes that “resource war” arguments risk missing the political dimensions of conflicts when resources are reduced purely to their economic or utilitarian value (Le Billon, 2007, p. 164). Fundamentally, the division of “greed” and “grievance” may be viewed as a false dichotomy that unhelpfully obscures the interrelated nature of economic and political factors that shape the relationship of resources to violence (Keen, 2012; Berdal, 2005; Ballentine & Sherman, 2003). The dangerous reductionism of the “greed” discourse is further recognized in criticisms of the exaggerated emphasis given to the role of conflict-minerals in the DRC’s civil war. Various studies highlight the emergence of a “rape-resource” narrative which links sexual violence to economic predation as a “weapon of war” (Buss, 2018; Bos, 2006; Baaz & Stern, 2013; 2019; Laudati & Mertens, 2019). Problematically, Laudati and Mertens argue, this narrative
presents “a highly simplified version of a multifaceted reality” that distorts the “complexity and messiness of warring and rape” (Laudati & Mertens, 2019, p. 19). Historical context and gendered dynamics of atrocity crimes are obscured (Baaz & Stern, 2008, 2013, 2019), whilst contradictory evidence on non-strategic or “opportunistic” rape (Cohen, 2017; Wood, 2018) and the perpetration of sexual violence in non-mining areas (Buss, 2018; Laudati & Mertens, 2019) is entirely ignored.

The political economy literature, with its use of qualitative and case study methods, has avoided many of the problems of ahistorical and depoliticized analysis associated with econometric work. However, both sets of scholarship have been primarily concerned with the causes or sustaining dynamics of conflict, with explanations of atrocity crimes often treated as a corollary of explanations of war. Consequently, they rarely address violence that may not relate to the causes of war or the economic dimensions with which this literature is concerned (Kalyvas, 2006, p. 20; Mitton, 2015, pp. 108-111). This includes violence of a non-instrumental nature. The literature on resource abundance has been challenged for its heavy emphasis on the economic rationality of violence and the view of perpetrators as engaging in cost-benefit maximizing behavior. Cramer regards this rational choice economics model as failing to capture the crucial social dynamics of behavior by individuals in war: as such, greed accounts are “extreme in their reductionism and fail in explanatory terms” (Cramer, 2002, p. 1856; see also Winslow & Woost, 2004, p. 16). Keen similarly acknowledges the limits of employing a rational violence framework in his own work, in which a conceptualization of individuals as “calmly deciding between alternatives on the basis of their self-interest” fails to adequately incorporate “the anger and fear manifest in the extreme violence in Sierra Leone” (Keen, 2002, p. 4) He adds: “this hardly describes the situation of drugged up, abused and abusive youths who may be terrified as well as terrifying” (Keen,
Various scholars have thus increasingly emphasized the need to look beyond
the rational-actor framework to better capture the important interaction of psychological and
dynamic s in genocide and civil wars, including those related to resources (e.g.

3.2. Rebel Governance and Atrocity Crimes

A more recent literature on rebel governance explores the role played by resources in shaping
non-state armed groups’ strategies and relationships with civilian populations (Arjona, 2016;
Arjona et al. 2015; Cuvelier, 2013, p. 10; Kasfir, 2005; Mampilly 2007). This scholarship has
explored the micro-level dynamics of violence through both quantitative and qualitative
methods, primarily as it relates to rebel organization and strategies to govern territory and
populations, and in contrast to the “greed” literature, it has addressed subnational variation in
the behavior of different insurgent groups (Ottmann, 2017; Mampilly, 2007; Weinstein,
2007).

One of the most influential contributions that focuses specifically on resources and violence
Violence.” Weinstein flips the Malthusian argument on its head by arguing that abundance of
natural resources (or foreign sponsorship) causes rebel violence against civilians, whilst
scarcity constrains it. Deploying both qualitative and quantitative data from research of
conflicts in Uganda, Mozambique and Peru, Weinstein explores the link between the
resources available to non-state armed groups and the forms of relationship-building they
undertake with local populations in order to sustain themselves or achieve their goals. He
distinguishes between “activist” groups – armed actors driven by ideology and reliant upon
civilian support in the absence of independent resources – and “opportunistic” groups – armed actors driven by material agendas with access to abundant resources (Weinstein, 2007, pp. 9-10). For Weinstein, the key finding is that the presence of abundant resources (or foreign sponsorship) increases the likelihood that groups will be opportunistic and will use indiscriminate violence against civilians in several ways. First, abundant resources remove reliance on popular support and thus, diminish incentives for commanders to prevent and deter abuses against civilians. Second, it leads to armed groups attracting materially motivated members rather than ideologues, who will use violence and looting to enrich themselves. Third, as a result of the lack of connection with civilian populations and the abuses of opportunistic combatants, armed groups become ever more reliant on extreme violence as a means to control and extract information from non-supportive populations. Weinstein’s analysis shifts focus from understanding violence as determined by a group’s aims to understanding it as predetermined by a group’s starting resources and “initial conditions” (Weinstein, 2007, p. 101). Fundamentally, atrocity crimes are the “unintended consequence of organizational strategy” – a strategy dictated by resource abundance (Weinstein, 2007, p. 301).

Weinstein’s study represents an important departure from much prior scholarship by providing an explicit focus on atrocity crimes rather than conflict and violence more generally. In taking a comparative micro-level focus, incorporating both qualitative and quantitative analysis, it overcomes many of the limitations that pervade work on scarcity and abundance. Nevertheless, Weinstein’s argument has been challenged on its empirical basis and, like Collier, criticized for excluding state violence. Kalyvas argues that Weinstein’s analysis is fundamentally unable to account for state-related variables and evades questions about why modern professional militaries – in which soldiers receive pecuniary benefits – are
not highly prone to indiscipline and mass abuses (Kalyvas, 2007, p. 1147). Furthermore, citing examples from Lebanon and Mozambique where massacres could not be readily attributable to indiscipline resulting from resource abundance, and noting other cases where resource-poor groups (such as Uganda’s Lord’s Resistance Army) are highly abusive, Kalyvas notes that “evidence that does not fit theory is sometimes overlooked” (Kalyvas, 2007, p. 1149). Thaler, in his study of violence in Angola and Mozambique, finds that Weinstein fails to reflect the degree to which ideals may hold greater allure for rebels than material gain, and how ideology may shape violent practices (Thaler, 2013, p. 548).

Weinstein’s conceptualization of atrocity crimes as an “unintended consequence” of rebel group’s organizational strategies also leaves some important explanatory gaps. The contention that violence against civilians may not be counterproductive to war aims, and so may be tolerated in a “culture of impunity”, does not in itself tell us why this violence occurs (Weinstein, 2007, p. 250). If we are to assume that a default to violent behavior is automatic in situations where restraints do not exist, Weinstein has essentially returned us to the Hobbesian argument articulated by New Barbarism (Kalyvas, 2007, p. 1146). However, Weinstein goes further in arguing that “looting, destruction, and indiscriminate killing” result from the opportunistic orientation of those who join groups to get rich quick (Weinstein, 2007, pp. 204-205). In this respect, Weinstein follows a common tendency in the conflict literature to attribute atrocity crimes that appear unrelated to group strategies or political goals to the “criminal” character of perpetrators (Abullah, 1998; Gberie, 2005; Mueller, 2000, pp. 42-43; Kalyvas, 2006, p. 57; Reno, 1998, p. 54;). This essentialist and deterministic view of individual behavior fails to account for the substantial number of non-criminal or materially-motivated perpetrators of atrocity crimes in so-called “resource wars” (see for example, Ellis, 1999, p. 134; Mitton, 2015, pp. 83-90). This suggests that, although
Weinstein’s and similar studies (see for example, Beardsley & McQuinn, 2009) provide more detail on differences between rebel group behavior than previous work, scholarship should move beyond simple “opportunistic” and “activist” typologies to better reflect groups’ internal heterogeneity and avoid replicating the false dichotomy of “greed” and “grievance.”

3.3. Genocide and Mass Killings

Beyond the study of civil wars, various scholars have articulated typologies of genocide that include “utilitarian” mass killings aimed at acquiring land and monopolizing economic resources. These forms of genocide have been particularly associated with the mass violence of European colonizers, for example during the British expansion into the Americas, or in more recent violence against indigenous groups, for example in Brazil (Dadrian, 1975; Chalk & Jonassohn, 1990, p. 13; Horowitz, 1976; Kiernan, 2007; Fein, 1984; Moses, 2008; Schaller, 2010; Stewart, 2011, p. 20). Various large-N studies have also explored the macro-level relationship between resource abundance and mass killings and genocides (Hoeffler, 2016). Querido’s study (2009) of mass violence against civilians by African states finds that risks of atrocities correlate with crude oil production and alluvial diamond deposits. Esteban and colleagues (2015) likewise find that mass killings are most likely in countries with identifiable group cleavages and large amounts of natural resource rents, with risks significantly higher where oil, gas, and diamonds are abundant. The smaller and wealthier an ethnic group, the likelier they are to be targeted. They theorize this relationship in terms of perpetrator motivations to reduce the population size of an opponent group through extermination (or exile), leaving a larger share of future material surplus for the perpetrator group (Esteban, et al. 2015, p. 1089). The more natural resources present, the authors argue,
the lower the damage created by reduction of labor force through mass killing (Esteban, et al. 2015, pp. 1089-1090). However, in their reliance on macro-level data, such studies are beset by many of the same challenges encountered by the “greed” literature. Speculative causal relationships based on correlations lack substantial depth in empirical support. Hoeffler, in surveying the sparse economics literature on mass violence, genocide and resources, observes that “very few large-N studies consider problems of autocorrelation, endogeneity, and simultaneity” (Hoeffler, 2016, p. 234).

Studies suggesting links between land-grabbing, colonial conquest, and genocide and mass killings find broad support in the literature (Schallman, 2010). Beyond this scholarship, findings on abundance explanations for genocide and mass killing remain tentative, particularly in regard to contexts of war in which genocide typically occurs (Harff, 2003; Krain, 1997; Strauss, 2012). The literature on natural resources and genocide remains dominated by scarcity arguments (Levene, 2010; Zimmerer, 2014), whilst the wider surveys on mass violence and genocide do not find natural resources to be a significant a factor in the strategic (Shaw, 2003, 2007; Midlarsky, 2005; Ulfelder & Valentino, 2008; Valentino et al., 2004) or ideological (Harff, 2003; Weitz, 2003) origins of violence (Strauss, 2012: 547).

4. The Natural Environment and Atrocity Crimes: Future Research

The diverse scholarship on the natural environment and violence has evolved substantially over recent decades. Early debates over the role of resource scarcity or abundance in producing instability, war, and genocide laid the groundwork for an increasingly sophisticated and wide-ranging body of work taking place across multiple academic disciplines. However, the overwhelming focus of much of this scholarship has been upon the
causes and dynamics of conflict, and there is need and potential for much greater investigation of the specific relationship of natural resources to atrocity crimes. This chapter has identified at least two areas in which future research may seek progress.

First, scholarship has yet to escape the tendency of translating disciplinary and methodological differences into siloed rather than collaborative analysis. Whether in debates over scarcity (see Homer-Dixon, Peluso and Watts, 2003), “greed and grievance”, (see Keen, 2012), or climate change (see Selby, 2014), tensions and mutual skepticism between quantitative and qualitative work is pronounced. Whilst methodological critiques are essential to good scholarship (Cuvelier, 2013, p. 16), a result is that opportunities for collective gain are often missed (Ide, 2018, p. 350; Solow, 2013). Promising recent scholarship suggests that constructive efforts to coordinate and reflect upon research across disciplines and methods can yield useful insights through combining the comparative strengths of specialist fields (Ide, 2017; Le Billon & Duffy, 2018). Rationalist frameworks for understanding perpetrator behavior have produced valuable work, but in common with genocide studies, civil war scholarship can be enriched by greater inclusion of work on the psychological and affective (or emotional) dimensions of violence (Cramer, 2002; Mitton, 2015; McDoom, 2012).

Greater interaction between fields studying civil war violence and genocide may also lead to progress in refining research on the role of the natural environment in atrocity crimes. Strauss observes that “genocide studies has been strangely and unproductively cloistered from the study of other forms of political violence” (Strauss, 2012, 545). This is especially important to address given the strong links between genocide and war contexts (Harff, 2003; Strauss, 2012, p. 546).
Second, this chapter has shown that scholarship on the links between violence and natural resources, whether through abundance or scarcity, often fails to sufficiently explore or account for the causal mechanisms behind atrocity crimes. This can be related to tendencies to focus on causes of conflict rather than violence in its own right, to approach violence at a removed, macro-level, and to rely on correlations in statistical data to support contested causal assumptions. Future research should seek to elaborate on the interaction of resource-dynamics with other factors shaping violence, and by so doing, more clearly articulate how theories concerning horizontal inequalities, for example, can better elucidate the causes, scale, intensity, and forms of atrocity crime linked to the natural environment.

Addressing the above will greatly improve the prospects of success for scholars seeking better understanding of, and solutions to, two challenges likely to dominate the future of research on the environment and atrocity crimes: climate change and urbanization. These may represent unprecedented challenges in the twenty-first century due to their scale and projected rate of increase; as an increasingly urban global population seeks to contend with a range of potential direct and indirect environmental shocks, the Malthusian debate will inevitably return to center stage (see for example Levene, 2010; Zimmerer, 2014). New bodies of research on climate-security and urban fragility have emerged in recent years. As they develop, the need for rigorous, multiscalar and multidisciplinary research on atrocity crimes will be paramount.

5. Conclusion

This chapter has surveyed two broad and diverse approaches to exploring the relationship between the natural environment and atrocity crimes: those focused on resource scarcity, and those focused on resource abundance. Both bodies of research have provided increasingly
sophisticated insights into the ways in which natural resources and the environment may shape violence, and have sparked vigorous debate among scholars as to when, where, and how – if at all – a casual relationship between resources and atrocity crimes exists. That debate has focused attention on the strengths and limits of contrasting quantitative and qualitative research methods across disciplines, and highlighted the importance of truly multidimensional analyses that place economic and material conditions within historical, political and social context. As scholars increasingly turn to the study of urbanization and climate change and their potential relationship to atrocity crimes, the need to locate collaborative and complimentary forms of research that transcend methodological and disciplinary boundaries will be paramount.

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The Natural Environment and Atrocity Crimes


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